"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

VAVILOV, Nikolay Ivanovich, akademik; SUKACHEV, V.N., akademik, glav. red.; BARANOV, P.A., zam. glav. red.[deceased]; ZHUKOVSKIY, P.M., zam. glav. red.; BARULINA-VAVILOVA, Ye.I., red. [deceased]; BAKHTEYEV, F.Kh., otv. red. toma; SINSKAYA, Ye.N., otv. red. toma; IPAT'YEV, A.N., red.; RODIN, L.Ye., red.; YAKOVLEVA, V.M., red. izd-va; GALIGANOVA, L.M., tekhn. red.

[Selected works in five volumes] Izbrannye trudy v piati tomakh. Moskva, Izd-vo Akad. nauk SSSR. Vol.3. [Problems of the geography, phylogeny, and breeding of wheat and rue. Plant resources and problems of the classification of cultivated plants]Problemy geografii, filogenii i selektsii pshenitsy i rzhi. Rastitel'nye resursy i voprosy sistematiki kul'turnykh rastenii. 1962. 531 p. (MIRA 15:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Baranov).
2. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Zhukovskiy).
(Wheat) (Rye)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUMOV, D., tekh.

Annual meeting of the Scientific and Technical Society at the "Energosnabdiavane-Stolichno" Plant. Tekh delo 500: 1 24N '63.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUMOV, D.

"New electric machinery at the Leipzig Technical and Sample Fair."

p. 18 (Elektroenergiia) Vol. 8, no. 3, Mar. 1957
Sofiia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

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DOBREV, V., inzh.; BARUMOV, D.

Breaks in the cable lines in Bulgaria. Elektroenergiia 14 no.9: 12-13 S'63.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, V.A.; BUDINSKIY, A.A.; AZAROV, A.S., kand. tekhn. nauk, dots. retsenzent

[Automatic control of machine tools] Avtomaticheskoe upravlenie metallorezhushchikh stankov. Izd.2., perer. i dop. Moskva, Mashinostroenie, 1964. 343 p. (MIRA 17:10)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, B.

"Microgeometry of Finished Metal Surface and its Measurement," Moscow 1948

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

L 18215-63 EWT(d)/FCC(w)/BDS ASD/ESD-3/APGC/IJP(C) Pg-4/Pk-4/Po-4/ Pq-4 GG

ACCESSION NR: AT3001879 S/2906/62/000/000/0106/0113

AUTHORS: Barun, B.V.; Zelinskiy, E.M.; Sergiyenko, V.I. 78

TITLE: Integrating block of a digital integrating machine 16

SOURCE: Kombinirovannyye vychislitel'nyye mashiny; trudy II Vsesoyuznoy konferentsii-seminara po teorii i metodam matematicheskogo modelirovaniya. Moscow, Izd-vo AN SSSR, 1962, 106-113

TOPIC TAGS: computer, integrator, integrating block, block, integrating, digital, memory, logic, circuitry, increment, counter, summator, adder

ABSTRACT: This theoretical paper discusses the integration operation entailed by the trapezoidal-quadrature formula developed by F.V.Mayorov (elsewhere in the same sbornik) for the digital differential analyzer (DDA) developed at the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics, AS USSR). The integration operation described is broken down into 6 specified steps, including: (1) The algebraic summation of the increments appearing at the integrator input; (2) the accumulation of the running function in a register Y as the sum of its antecedent value and an increment (with retention of the running value of the function until the next step); (3) the formation of the mean

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value of the integrand function as a sum of its running value plus 1/2 the increment; (4) the multiplication of the mean value of the integrand function by the increment of the independent variable; (5) the summation of the values of said products with the number collected in a register S, which has the same number of digits as the register Y, to obtain the value of the integral S_i^* for the given step. The code of that number is then remembered until the next step; (6) the overflow signal of the register S is attributed ... the sense of increments of the integral S. The DDA described operates in the binary system of counting with fixed decimal point. The machine employs a ternary method of increment coding, that is, each increment may have the 3 values −1, 0, and +1. Transmission of the increments is performed by two separate channels. Two memory units are employed to store the increments. A simplified functional scheme is described and depicted graphically. The scheme provides for: (a) integration; (b) introduction of continuous quantities (voltages); (c) introduction of digital quantities (codes); (d) formation and introduction of functions; (e) logic operations; (f) output of the data to the operating organs. The capacitive memory system, the increment counter, and the series-type single-digit summator are described and depicted schematically. The results of the solution of a problem analyzed have confirmed the validity of the construction of the logic schemes of the integrating block and have proved the fundamental possibility of its dependable operation under real conditions. Orig. art. has

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L 18215-63
ACCESSION NR: AT3001879

9 figs. and 5 numbered equations.

ASSOCIATION: none

SUBMITTED:	00	DATE ACQ:	11Apr63	ENCL:	00
SUB CODE:	CP, MM	NO REF SOV:	001	OTHER:	000

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

GORDON, L.M.; BARUN, M.A.

Methods of the assessment of the economic effectiveness of capital investments in the commercial sturgeon fisheries of the southern seas. Trudy VNIRO 56:211-236 '64. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii (for Barun).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, Mark Abramovich.

(Fixed capital in the industry of the USSR. (data on its status, restoration, and reconstruction) Moskva, Gos. izd-vo; etc. 1930. 315 p. (Biblioteka promyshlennkh znanii) (47-44304)

HC335.B315

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARON, Mark Abramovich.

(The credit plan for associations and enterprises under the new crediting conditions) Moskva, Gos. finansovee izd-vo SSSR, 1932..71 p. (Kreditnaia biblioteka raionkoge rabotnika)

Cyr.4 H G82

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

1. BARUN, M. A.

2. USSR (600)

4. Technology

7. Analysis of the economic activity of the enterprises of the fish industry. Moskva, Pishchepromizdat, 1952. 148 p.

9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassified.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, M.

Industrial Management

Further elucidation of advanced knowledge in financial management of enterprises ("Financial operations in industry." B. Yu. Krichevskiy. Reviewed by M. Barun), Den. i kred., 11, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

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BARUN, M.

USSR (600)

"New regulation for bookkeeping reports and balances," V.I. Pereslegin, reviewed by M. Barun. Budhg. uchet 11 no. 8, 1952.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, M. A.

4579. BARUN, M. A. balans ryboprom̃yshlennogo predpriyatiya. m., pishchepromizdat, 1954. 131 s. 22 sm. 3.500 ekz.- 4 r. 45 k.-/55-172/p

657.372:664.95

SO: Knizhnaya Letopis', Vol. 1, 1956

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BARUN, M.

A method for analyzing the effect of producing several products on costs. Bukhg.uchet. 14 [i.e. 16] no.8:11-17 Ag '57. (MLRA 10:8)

(Costs, Industrial)

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BAKUN, M.A.

Problems involved in the production and management of the petroleum refining industry. Khim.i tekh.topl.i masel 5 no.10:69-71 O '60.
(MIRA 13:10)

(Petroleum industry--Management)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

MEYEROVICH, Grigoriy Mikhaylovich; GOLOVASTIKOV, A.A., retsenzent; BARUN, M.A., red.; KOPELEVICH, Ye.I., red.; SHAPENKOVA, T.A., tekhn. red.

[Analysis of the financial operations of a textile enterprise] Analiz finansovoi deiatel'nosti predpriiatiia tekstil'noi promyshlennosti. Pod red. M.A.Baruna. Moskva, Izd-vo nauchno-tekhn. lit-ry RSFSR, 1961. 90 p. (MIRA 15:3)
(Textile industry--Finance)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, M.

"Planning the working capital of an industrial enterprise" by I.Usatov. Reviewed by M.Barun. Fin. SSSR 23 no.7:93-94 Jl '62. (MIRA 15:7)

(Capital) (Usatov, I.)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, M.

"Analysis of the administrative operations of enterprises by State Bank branches." Reviewed by M. Barun. Den. i kred. 20 no.11:88-92 N '62. (MIRA 16:1)

(Banks and banking) (Industrial management)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, V.A.

Asm

3046. (Book) Mikrogeometriia Obrabotannoi Metallicheskoi Poverkhnosti i Ee Izmerenila. (Microgeometry of Machined Metallic Surface and Its Measurement.) V. A. Barun, 180 pages. 1948. Government Scientific-Technical Publishing House for Machine-Industry Literature, Moscow and Leningrad, U.S.S.R.

The present status of measurement of surface finish of machined metallic surfaces and methods and devices for this purpose. Basic concepts; apparatus. The problem of standardization of surface quality. 24 ref. (B15)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, V.A.

Mikrogeometriia obrabotannoi metallicheskoi poverkhnosti i ee izmerenie. Moskva, Mashigiz, 1948. 177, (3) p. illus. (Tekhnologiia mashinostroeniia: Vzaimozameniaemost' i dopuski v mashinostroenii)

Bibliography: p. 177-(178).

Microegeometry and measurements of the finished metal surface.

DLC: TA407.B27

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, Vladimir Abramovich; BUDINSKIY, Aron Abramovich; SHAUMYAN, G.A., prof., doktor tekhn.nauk, retsenzent; KOSTYGOV, I.N., inzh., red.; BORODULINA, I.A., red.izd-va; VAHKOVETSKAYA, A.I., red.izd-va; NIKOLAYEVA, I.D., tekhn.red.

[Automatic control of machine tools; means of automatization and their use] Avtomaticheskoe upravlenie metallorezhushchikh stankov; sredstva avtomatizatsii i ikh ispol'zovanie. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 295 p. (MIRA 12:7)

(Machine tools) (Automatic control)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

25(1); 8(2) PHASE I BOOK EXPLOITATION SOV/2752

Barun, Vladimir Abramovich, and Aron Abramovich Budinskiy

Avtomaticheskoye upravleniye metallorezhushchikh stankov; sredstva avtomatizatsii i ikh ispol'zovaniye (Automatic Control of Metal-cutting Machine Tools; Automation Systems and Their Uses) Moscow, Mashgiz, 1959. 295 p. Errata slip inserted. 10,000 copies printed.

Reviewer: G. A. Shaumyan, Doctor of Technical Sciences, Professor;

Ed.: I. N. Kostygov, Engineer; Eds. of Publishing House: I. A. Borodulina and A. I. Varkovetskaya; Tech. Ed.: I. D. Nikolayeva; Managing Ed. for Literature on Machinery Construction (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for technical personnel of industrial establishments and design and planning organizations. It may also be used by students of machinery-construction institutions of higher education.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

COVERAGE: The basic principles of the automatic control of metal-cutting machine tools are presented. Basic functions and elements of automatic control systems and modern methods for automating production equipment are described. The systems include hydraulic, pneumatic, and electrical types. No personalities are mentioned. There are 32 references: 31 Soviet and 1 English.

TABLE OF CONTENTS:

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AVAILABLE: Library of Congress (TJ1230 .B35)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, Vladimir Abramovich; BUDINSKIY, Aron Abramovich; MITROFANOV, S.P., doktor tekhn. nauk, retsenzent; SHAVLYUGA, N.I., kand. tekhn. nauk, red.; KUREPINA, G.N., red.izd-va; SPERANSKAYA, O.V., tekhn. red.

[Automatic control systems for machine tools]Sistemy avtomatizatsii stankov. Moskva, Mashgiz, 1963. 430 p. (MIRA 16:4)
(Machine tools) (Automatic control)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUN, V.A.; BUDINSKIY, A.A.; PAKIDOV, P.A., kand. tekhn. nauk, retsenzent

[Program controlled machine tools and programming of the machining] Stanki s programmnym upravleniem i programmirovanie obrabotki. Moskva, Mashinostroenie, 1965. 347 p. (MIRA 18:4)

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BARUN, V.N.; LEPESHKIN, M.I.

The MAZ-501 logging truck. Biul.tekh.-ekon.inform. no.5:71-73 '58. (MIRA 11:7)
(Motortrucks)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUNKIN, D.

Harvest is initiated in the workshop. Sov. profsoiuzy 19 no.24:8-9 D '63. (MIRA 17:1)

1. Predsedatel' zavodskogo komiteta Samarkandskogo superfosfatnogo zavoda.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

SOROKO, L.N.; NEFEDOV, A.A.; YERSHOV, V.N.; MASYUKOV, S.N.[deceased]; FROLOV, N.P.; BARUNSHTEYN, R.A.

Rolling light-weight girders No. 19 using low-alloy 09G2D steel[with summary in English]. Stal' 18 no. 6:532-537 Je '58. (MIRA 11:7)

1. Kuznetskiy metallurgicheskiy kombinat i Ural'skiy institut chernykh metallov.

(Rolling(Metalwork))
(Steel alloys)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUS, M.

The helminths in dormice (Myoxidae) in Czechoslovakia.

p. 651 (BIOLOGIA) Vol. 11, no. 11, 1956,
Bratislava, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUS, V. ; TENORA, F.

Helminthofauna of the mice and voles in the National Park at Lednice and its environs. p. 461. Ceskoslovenske akadenie ved. Brnenska zakladna. PRACE. Brno. Vol. 27, no. 10, 1955.

SOURCE: East European Accessionists, List, (EEAL), Library of Congres Vol. 5, no. 12, December 1956.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUS, V.

CZECHOSLOVAKIA/Zooparasitology - Helminths. G.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67518

Author : Tenora, Fr., Barus, V.
Inst : -
Title : Materials on the Helminthofauna of the Wild Rabbit of Czechoslovakia.

Orig Pub : Zool. listy, 1957, 6, No 4, 341-357.

Abstract : Investigations of the rabbit, conducted in 1954-1956, resulted in the discovery of 9 species of helminths; all of them were known previously to exist in the fauna of the CSR with the Exception of Mosgovoyia pectinata moravica ssp. n. (a description is given).

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUS, Vlastmil, inz.

Preliminary report on helmithofauna of the ass (Equus asinus L.)
Biologia 16 no.8:596-600 '61.

1. Biologicky ustav Ceskoslovenske akademie ved, Oddeleni parasitologie, Praha 6, Na cvicisti 2.

(ASSES AND MULES) (PARASITES)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

CZECHOSLOVAKIA

BARUS, Vlastimil [Affiliation not given.]

"Symposium About Helminths Living in Vicinity of Waters."

Bratislava, Biologia, Vol 18, No 8, 1963; pp 633-634.

Abstract : Report on a 4-day meeting Oct-Nov 1962 in Prague: 107 participants including 43 foreign from USSR, Poland, Hungary, Bulgaria, East Germany, Holland, England, Sweden and Finland. Prior to the meeting, 31 reports were printed and distributed for discussion; a dozen of these are reviewed here briefly with comments.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUSHKA, A.

Ten days. Rab.i sial. 37 no.9:12-13 S '61. (MIRA 14:10)

1. Redaktor zhurnala "Molodoy kolkhoznik".
(Youth--Congresses)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

S/828/62/000/000/006/017
E039/E420

AUTHORS: Laskorin, B.N., Kaplan, G.Ye., Uspenskaya, T.A., Barushkova, R.I.

TITLE: The extraction and separation of tantalum and niobium from hydrofluoric acid - trioctylamine solutions

SOURCE: Razdeleniye blizkikh po svoystvam redkikh metallov. Mezhvuz. konfer. po metodam razdel. blizkikh po svoyst. red. metallov. Moscow, Metallurgizdat, 1962, 71-78

TEXT: Ta and Nb are extracted from a hydrofluoric acid solution containing Ta_2O_5 and Nb_2O_5 by means of tri-octylamine [TOA - $(C_8H_7)_3N$]. The extraction is carried out in a separating funnel using mechanical stirring. After separating the phases the Ta and Nb content in each is determined radiometrically by counting the activity of the radioactive isotopes (Ta^{182} and Nb^{95}) which were introduced into the initial solution before extraction. A chemical analysis was also made and good agreement obtained. Maximum extraction of Nb in the organic phase is attained with a contact time of 3 minutes and for Ta in 1 to 2 minutes; hence in all later experiments contact times of 3 to 5 minutes were used.

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A high separation coefficient ≈ 400 is obtained for concentration $\Sigma(Ta,Nb)_2O_5$ = 200 g/litre with $Ta_2O_5/Nb_2O_5 \approx 1$. The effect of the type of diluent on the extraction is also investigated. In the case of kerosene a third phase is formed which can be eliminated by the use of decyl or octyl alcohol. The re-extraction of Ta and Nb is examined and it is shown that Nb is extracted by (a) 7% HCl, (b) 6 to 10% HNO_3, (c) 14% NH_4Cl and (d) 25% NH_3 solution. Ta is extracted only by concentrated HNO_3 (600 to 800 g/litre) and 25% NH_3 solution. By a combination of extraction and re-extraction it is possible to obtain an almost complete separation of Ta and Nb from HF solution. There are 4 figures.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUSHNIKOV, N., Capt.

AID P - 2654

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 9/17

Author : Barushnikov, N., Capt.

Title : Air gunner training

Periodical : Vest. vozd. flota, 9, 53-58, S 1955

Abstract : The author is concerned mainly with the training of air gunners of operational bombers. He discusses: 1) selection of gunners, 2) ground training, 3) failures due to the lack of experienced instructors, 4) technique of sighting, 5) proper use of weapons, 6) acquisition of right habits in handling sights and guns, 7) analysis of training results, 8) methods of observation.

Institution : None

Submitted : No date

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUTCHIEV, L,

"Technique for casting and mechanical manufacturing of pistons for tractor motors", P. 26., (TESHKA PROMISHLENOST, Vol. 3, No. 9, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. . June 1955, Uncl.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BAROTOISKI, T.

The hoisting and fixing of the reinforced-concrete lattice girders for the clinker room of the Cement Plant at Skopje. p. 23.
(GLASNIK, Vol. 1, No. 1. Mar./Apr. 1956

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957
Uncl.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

STOLBOV, Yu.I., inzh.; VLADIMIROV, V.V., inzh.; BARUTKIN, F.Ye., inzh.

System for stabilizing the length of the arc in argon arc welding with a nonconsummable electrode and a direct current. Svar. proizv. no.3:36-37 Mr '65. (MIRA 18:5)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

L 7667-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) IJP(c) MJW/JD/HM
ACC NR: AP5025610 SOURCE CODE: UR/0135/65/000/010/0016/0018

AUTHOR: Terent'yev, I. M. (Engineer); Barutkin, F. Ye. (Engineer); Konovalov, G. S. (Engineer)

ORG: none

45

TITLE: Effect of welding conditions on the density of aluminum-alloy welds B

SOURCE: Svarochnoye proizvodstvo, no. 10, 1965, 16-18

TOPIC TAGS: aluminum alloy, alloy welding, alloy weld, TIG welding, MIG welding, weld density, weld porosity/AMg6 alloy, ATsM alloy, VAD1 alloy

ABSTRACT: The effect of welding conditions on the porosity of AMg6, ATsM, and VD1 aluminum alloy welds in sections 2.5—7.0 mm thick has been studied. Alloy specimens were TIG welded with a one- or three-phase arc and filler wire or MIG welded. Welding current was varied from 51 to 295 amp and welding speed, from 5 to 35 m/hr. At low welding speeds (5—17 m/hr), weld porosity decreased with decreasing welding speed and with increasing specific heat input. At 20—29 m/hr, weld porosity decreased with increasing welding speed, but increased with increasing heat input. At welding speeds higher than 29 m/hr, increasing the welding speed at a constant heat input decreased weld proosity. Weld porosity depends primarily on the temperature of the melting pool and on arc pressure. Lower melting-pool temperatures and higher arc pressures reduce porosity. The hydrogen, which is the primary cause of weld

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L 7667-66

ACC NR: AP5025610

O

porosity, is produced by the dissociation of aluminum hydroxide, the moisture in the arc zone, the diffusion of hydrogen from the parent metal, and the liberation of hydrogen from the molten parent and filler metals. Therefore, the optimum welding conditions for obtaining dense, poreless welds in aluminum alloys are a melting-pool temperature not exceeding 800C, keeping the pool in the molten state for the shortest possible time, a maximum cooling rate of the molten metal, and an arc pressure sufficiently high to break up completely the oxide film that forms on the pool. Orig. art. has: 4 figures. [MS]

SUB CODE: MM, IE/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4141

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

L 28868-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JH/JD/HM

ACC NR: AP6011536 SOURCE CODE: UR/0135/66/000/004/0020/0021

AUTHOR: Barutkin, F. Ye. (Engineer); Vladimirov, V. V. (Engineer)

ORG: none

TITLE: Circuits of three-phase arc power sources for argon-arc welding

SOURCE: Svarochnoye proizvodstvo, no. 4, 1966, 20-21

TOPIC TAGS: welding transformer, circuit design, arc welding, electric power source, phase shift / TSD-1000 welding transformer, TS-500 welding transformer

ABSTRACT: The three-phase arc, which involves the combustion of three electric arcs, provides a stronger and more stable heat source and thus makes it possible to accomplish a speedy non-V welding of aluminum thicker than 5 mm. Studies performed by the authors show that the stability of the process of three-phase argon-arc welding with a consumable electrode is primarily a function of correct adjustment of the power-source circuit with respect to a 120° phase-shift of the welding voltages. Different variants of the circuits of three-phase arc power sources may be used, but the circuits with a somewhat higher voltage on the first electrode additionally enhance the stability of the welding process. The optimal circuit of the three-phase arc power source is a circuit where inductive reactances are connected to all three phases, and

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L 28868-66

ACC NR: AP6011536

a pair of standard welding transformers such as, e.g. the TSD-1000 and TS-500, is employed. The presence of inductive reactances assures a uniform phase shift of the arc welding voltages such that the welding current ratio for the phases is $I_3 > I_1 > I_2$ while the choke assures a smooth regulation of the welding current. Orig. art. has: 6 figures.

SUB CODE: 13/ SUBM DATE: none/

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUTKIN, I.; ISAYEV, V.; PODSHCHEKOLDIN, M.

Checking oil dirtiness during the running-in of engines on stands. Avt.transp. 41 no.2:27-28 F '63. (MIRA 16:2)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut.
(Motor vehicles—Engines)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUTKIN, I.N., Cand Phys Math Sci -- (diss) "Dispersion of structural components and distortions of the crystal lattice in connection with magnetic properties in ferromagnetic alloys." Khar'kov, 1958, 12 pp (Min of Higher Education UkSSR. Khar'kov Order of Labor Red Banner State Univ im A.M. Gor'kiy) 100 copies. Bibliography at end of text (12 titles) (KL, 29-58, 127-8)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

AUTHORS: Pines, B.Ya., and Barutkin, I.N. SOV/126-6-5-11/43

TITLE: X-ray Investigation of the Structure of the Ferromagnetic Alloys Fe-Mo and Fe-Mo-Co (Rentgenograficheskoye issledovaniye struktury ferromagnitnykh splavov Fe-Mo i Fe-Mo-Co)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 832 - 837 (USSR)

ABSTRACT: A harmonic analysis was carried out of the shape of the blurred X-ray diffraction lines for the purpose of determining the magnitude of the micro-stresses and the degree of dispersion of the paramagnetic inclusions in Fe-Mo (79% Fe, 21% Mo) and Fe-Mo-Co (74% Fe, 16% Mo and 10% Co) alloys after various heat treatments. This method was used by the author in earlier work (Refs 7 and 9) for studying the structural changes in cold-worked metals and during tempering of hardened steel. In the work described in this paper the method was used for elucidating the causes of changes in the coercive force H_c resulting from heat treatment. The specimens consisted of 8.2 mm dia, 15 mm high cylinders. The heat treatment regimes and the magnetic characteristics of some of the investigated

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X-ray Investigation of the Structure of the Ferromagnetic Alloys Fe-Mo and Fe-Mo-Co

specimens are entered in a table, p 834. The structural characteristics are compared with the magnetic properties of the specimens. On the basis of the obtained results the following conclusions are arrived at: 1) changes in the coercive force in Fe-Mo and Fe-Mo-Co alloys during heat treatment are accompanied by changes in the "shape" of the X-ray interference lines; 2) blurring of the X-ray diffraction lines, corresponding to the ferromagnetic solid solutions of the alloys Fe-Mo and Fe-Mo-Co, is due to micro-deformations of the crystal lattice (micro-stresses); 3) the high coercive force in the Fe-Mo alloys is due to the presence in these alloys of considerable micro-stresses (up to 80 kg/mm^2), which occur in the ferromagnetic solid solution as a result of rejection of the Fe_2Mo_2 phase during tempering; 4) dependence of the coercive force on the magnitude of the micro-stresses in Fe-Mo alloys is in agreement with what can be anticipated in accordance with the "stress theory"; 5) the coercive force in Fe-Mo-Co alloys is due to micro-stresses in the ferromagnetic solid solution and to finely dispersed inclusions of the θ-phase;

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SOV/126-6-5-11/43

X-ray investigation of the Structure of the Ferromagnetic Alloys Fe-Mo and Fe-Mo-Co

6) in the case of Fe-Mo-Co alloys high coercive force values are obtained if high internal stresses, of the order of 60 kg/mm^2 are combined with a high volume concentration of finely dispersed paramagnetic inclusions; 7) in the first approximation, the dependence of the coercive force on the magnitude of the micro-stresses and the volume concentration of finely dispersed inclusions, derived from the "stress" and "inclusion" theories for Fe-Mo-Co alloys, is in agreement with the obtained experimental data. There are 5 figures and 10 references, 2 of which are English and 8 Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo (Khar'kov State University imeni A.M. Gor'kiy)

SUBMITTED: May 17, 1957

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

SOV/58-59-8-18049

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 148 (USSR)

AUTHORS: Barutkin, I.N., Pines, B.Ya.

TITLE: The Structure and Coercive Force of Some Ferromagnetic Alloys

PERIODICAL: Uch. zap. Khar'kovsk. un-t, 1958, Vol 98, Tr. Fiz. otd. fiz.-matem. fak., Nr 7, pp 233-250

ABSTRACT: By means of the X-ray method, which permits the study of microstress and microdispersion by means of the form of the smeared lines of the X-ray photographs, a study was conducted of the structure of several high-coercive alloys (Fe-Mo, Fe-Mo-Co, Cu-Ni-Fe and Fe-Ni-Al-Cu) during heat treatment, in connection with the variation of their magnetic properties. The correlation between elements of structure and H_c was investigated. It was possible in the case of each concrete alloy to determine the cause of the development of a high-coercive state. Thus, in the case of the Fe-Mo alloy, H_c is explained by the presence of microstresses (up to 80 kg/mm^2) which originate in the separation of the Fe_3Mo_2 phase during annealing, and in the case of the Fe-Mo-Co alloy, the highest values of

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SOV/58-59-8-18049

The Structure and Coercive Force of Some Ferromagnetic Alloys

H_c are attained by combining the greatest internal stresses (60 kg/mm^2) with the least volumetric concentration of fine-dispersed non-magnetic impurities. The connection of H_c with structural variations was established for various stages of decomposition under various conditions of heat treatment.

A.V. Zalesskiy

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D249/D301

11.9100

AUTHORS: Barutkin, I. N., Lyashenko, T. I. and Udovenko, V. F.

TITLE: An instrument for determining the iron content in engine oil

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 4, no. 6, 1961, 26-30

TEXT: An instrument ЖМ-1 (ZhM-1) has been developed for measuring small concentrations of iron particles in internal-combustion engine lubricants. Its operation is based on measurement of the magnetic permeability of oil. The minimum concentration of iron which can be measured is 0.001%. The instrument consists of a supply unit and an induction unit, the former comprising two solenoids K_1, K_2, a voltmeter and a rheostat, the latter two inductance coils K_3, K_4 and an indicator. With a perfectly symmetrical arrangement of the coils no current flows through the galvanometer. However, if oil containing iron particles is introduced into

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An instrument for determining ...

K_1 and "pure" oil into K_2 the galvanometer current is $I_o = \omega \Delta M I_m / Z$, where ΔM - increment of mutual inductance of the coils K_1 and K_3 due to the presence of iron. I_m - peak value of primary current; Z - total impedance of the secondary circuit. The author deduces for the iron content $m_{ir} = C_{in}\alpha$, where α is the deflection of the galvanometer and C_{in} the constant of the instrument $C_{in} = 1/S_g S_c$, S_g being the sensitivity of the galvanometer and S_c that of the circuit; $S_c = I_m \omega \mu^*_{ir} n_1 n_3 / z\rho$; μ^*_{ir} = iron permeability; $\mu_1 \mu_3$ - number of turns per unit length of coils K_1 and K_3; ρ - iron density. For the actual instrument the constant C_{in} is 1 mg/mm or 0.001% iron/mm deflection. Since it is impossible to obtain in practice a perfectly symmetrical arrangement of coils, a compensating unit must be used. This consists of a) a movable steel needle, whose depth of penetration in one pair of coils is controlled

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An instrument for determining ...

by means of a micrometer screw and, b) two variable resistors r_1 and r_2. The main source of error with the instrument described is the variation of the size of iron particles. Other errors are due to voltage and frequency fluctuations, non-sinusoidal form of the current, and interference. The effect of these errors can be minimized by using strong magnetic fields, e.g. of the order of 10^4 A/m. This article was recommended by the Kafedra Fiziki (Department of Physics). There are 3 figures, 1 table and 1 Soviet-bloc reference.

ASSOCIATION: Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile-Highway Institute)

SUBMITTED: April 19, 1961

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

L 11369-67 EWT(1) SCTB DD/GD

ACC NR: AT6036492 SOURCE CODE: UR/0000/66/000/000/0056/0057

AUTHOR: Barutkina, T. S.; Zarubaylo, T. T.; Mityushov, M. I.; Nozdrachev, A. D.; Panov, A. N.; Fedorova, L. D.; Shalyapina, V. G.

34

ORG: none

TITLE: Adrenal cortex and nervous system stress reactions [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Koferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 56-57

TOPIC TAGS: animal physiology, adrenal gland, nervous system, space physiology, biologic metabolism

ABSTRACT:

For a number of years the authors' laboratory has investigated the reaction of the nervous system to various stressors (pain, electric shock, noise, cold etc.) as a function of the adrenal cortex. In chronic dog experiments using implanted electrodes, it was established that there is a decrease in afferent and efferent impulsation, which takes place within a day under the influence of stressors.

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An injection of hydrocortisone prevents bioelectrical depression while desoxycorticosteronacetate either has no effect or a converse one by way of actually depressing bioelectric activity.

The reaction of brain catecholamines to stressors may depend on the level of peripheral blood corticosteroids. For instance, injection of large doses of hydrocortisone precludes a decrease in brain catecholamine level in response to cold. Chronic injection of "physiological doses" of hydrocortisone prevents a decrease in brain norepinephrin during the chronic application of stressors. Stress leads to a significantly greater depletion of brain catecholamine reserves in adrenalectomized animals than in intact animals.

The metabolism of the brain was studied in a resting state and during stress. The concentration of ATP, ADP, AMP, GTP, GDP, lactic, citric, pyruvic and ketoglutaric acids were determined after injection of hydrocortisone in animals in a resting state and during electrocutaneous stimulation. It was found that under these experimental conditions, which entailed prolonged (one day) irritation, metabolic indices were unchanged. Brief (45 sec) irrita-

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ACC NR: AT6036492

tion caused an intensification of glycolysis. Injection of hydrocortisone lowered the content of ATP while the concentration of ADP, AMP, and citric acid was increased. [W. A. No. 22; ATD Report 66-116]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

L 11370-67 EWT(1) SCTB DD/GD

ACC NR: AT6036493 SOURCE CODE: UR/0000/66/000/000/0058/0058

AUTHOR: Barutkina, T. S.; Zarubaylo, T. T.; Mityushov, M. I.; Panov, A. N.; Rabitskaya, V. V.; Sokolova, Ye. V. 25

ORG: none

TITLE: Characteristics of the activity of the adrenal cortex, the thyroid, and higher nervous activity under conditions of prolonged exposure to noise [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 58

TOPIC TAGS: acoustic biologic effect, biologic secretion, endocrinology, thyroid gland, blood chemistry

ABSTRACT: The adaptive reaction of the human organism to spaceflight stimuli includes change in the function of the pituitary-adrenal system, change in the thyroid gland, and in other endocrine glands. Study of spaceflight stress factors will enable explanation of the nature of the neuroendocrine changes which determine the organism's adaptation to unfavorable conditions. Experiments were conducted to determine the effect of constant noise (one of the above-mentioned stress factors) on the animal organism. White rats

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ACC NR: AT6036493

were exposed to noise with a frequency of 650 cps and intensity of 70 db for periods ranging from 1 hr to 14 days. The sound was turned on 17 sec in every 30 sec.

The functional activity of the adrenal cortex, determined by the decrease in ascorbic acid and cholesterol concentrations, increased depending on the time of the noise effect, reaching a maximum after 6--12 hr. After eight days of noise the condition of the adrenal cortex in experimental animals was the same as its initial condition. Introduction of ACTH provoked a normal adrenal reaction, indicating adaptation of the organism to the effect of the stimulus.

The functional condition of the thyroid gland was estimated using the protein-bound iodine blood test (PBI) and histological study. Increase in thyroid activity was observed only after one day of noise. Deviations from the norm were not observed in the remaining periods.

Higher nervous activity was studied using the motor electric defense method [Fedorov and Glebovskiy -- 1954]. Under the influence of noise (lasting seven days) the latent period of the reaction increased and a tendency to lengthening of the time of the animal's gait was observed. On the first day after cessation of noise, the number of errors increased for some of the animals, which can be considered adaptation to the noise effect. [W.A. No. 22; ATD Report 66-116]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUTCHEV, S.K., dotsent; KOZACHOK, V.Ya., assistent.

State and development of newborn infants and children under one year of age born to mothers with toxemias during the second half of pregnancy. Pediat. akush. ginek. no.3:52-53 '63 (MIRA 17:1)

1. Kafedra akusherstva i ginekologii (zav. - dotsent S.K. Barutchev) Vinnitskogo meditsinskogo instituta (rektor- dotsent S.I.Korkhov).

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZDIN, A.P., kand. tekhn. nauk; NESTEROV, B.Z., kand. tekhn. nauk

Magnetic forces generating vibration and noise in salient pole synchronous machines. Izv. LETI no.47:275-288 '62.
(MIRA 16:12)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZDIN, A.P., kand. tekhn. nauk

Elastic deformation and noise level at the surface of a stator.
Izv. LETI no.47:289-299 '62. (MIRA 16:12)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

FEDOROVA, Zoya Mikhaylovna. Prinimali uchastiye: PANASYANTS, A.G., inzh.; GRETSOV, V.L., kand.tekhn.nauk; VOLOKONSKIY, V.F., kand.tekhn.nauk; VETROV, A.P., inzh.; BARUZDIN, M.A., otv.red.; SHOROKHOVA, A.V., red.izd-va; PROZOROVSKAYA, V.B., tekh.red.; BOLDYREVA,Z.A., tekhn. red.

[Collected examples and problems on mine hoisting equipment] Sbornik primerov i zadach po rudnichnym pod"emnym ustanovkam. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 352 p. (MIRA 14:12)

(Mine hoisting)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

SOLOV'YEV, Aleksandr Aleksandrovich; BAKUZDIN, M.A., otv.red.; SILINA, L.A., red.izd-va; SHKLYAR, S.Ya., tekhn.red.

[Collected problems on mine transportation] Sbornik zadach po rudnichnomu transportu. Izd.2, dop. i perer. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 299 p. (MIRA 14:12)

(Mine haulage)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

NOR, Aleksandr Alekseyevich; MATYUSHENKO, Yuriy Pavlovich; MEL'NIKOV, Andrey Alekseyevich; LIPAKOV, Aleksey Nikandrovich; VIRABOV, A.A., inzh., retsenzent; BARUZDIN, M.A., inzh., otv. red.

[Engineers of electric mine locomotives] Mashinist rudnichnogo elektrovoza. Moskva, Izd-vo "Nedra," 1964. 161 p. (MIRA 17:4)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BUN'KO, Viktor Aleksandrovich; VOLOTKOVSKIY, Sergey Andronikovich; BARUZDIN, M.A., otv. red.

[Increasing the safety of mine electric locomotive haulage] Povyshenie bezopasnosti rudnichnoi elektrovoznoi otkatki. Moskva, Nedra, 1964. 238 p. (MIRA 18:1)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZDINA, R.S.; YESIPOVA, L.N.; TAYTS, Ye.M.

Young's modulus of coke as dependent on the carbonization temperature. Dokl. AN SSSR 156 no. 4:935-936 Je '64.
(MIRA 17:6)

1. Predstavleno akademikom P.A.Rebinderom.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZI, L.; BOLOGA, V.; JURCA, I.; MACARIE, I.

Persian type glass treated with ammonium sulfate. Industria usoara 11 no.6:322 Je '64.

1. Turda Glass Manufacture.

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SOV/126-6-5-28/43

AUTHORS: Akhiyezer, A. I., Bar'yakhtar, V. G. and Kazanov, M.I.

TITLE: On the Problem of the Ferromagnetic Resonance Line Width (K voprosu o shirine linii ferromagnitnogo rezonansa)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 932-934 (USSR)

ABSTRACT: Kittel and Herring (Ref 5) and Ament and Rado (Ref 6) showed that the exchange interaction may broaden the ferromagnetic resonance lines if the magnetic moment is not uniform. Such a non-uniformity does in fact occur in ferromagnetic metals due to the skin effect. The present paper estimates the magnitude of broadening (γ_e) of the ferromagnetic resonance lines due to the exchange interaction. The value of γ_e is given as a function of the parameters of the ferromagnetic and of the frequency ω in Eq (5). The symbols used in Eq (5) have the following meanings:
θ_c is the Curie temperature in ergs,
a is the lattice constant,
c is the velocity of light

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On the Problem of the Ferromagnetic Resonance Line Width

σ is the electrical conductivity
γ_r is the broadening due to relaxational processes,
g is the gyromagnetic ratio,
M_0 is the magnetic moment at saturation and
B_0 is the magnetic flux density at saturation.
The total broadening γ is given by $\gamma = \gamma_e + \gamma_r$.

The results obtained are generalised to the case of the anomalous skin effect at low temperatures. The expressions for γ_e^a (which is the value of γ_e in the case of the anomalous skin effect) and γ_r are then given by Eq (6), where ℓ is the mean free path of electrons. Comparison of Eqs (6) and (5) shows that γ_e^a is much smaller than γ_e. Dependence of $\gamma = \gamma_e + \gamma_r$ on temperature is given in Fig.1. The total broadening γ is seen to have a minimum, but this can be observed only in very pure samples.

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SOV/126-6-5-28/43

On the Problem of the Ferromagnetic Resonance Line Width

There are 1 figure and 10 references, 2 of which are Soviet, 7 English and 1 French.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
(Physico-technical institute, Ac.Sc. Ukrainian SSR)

SUBMITTED: August 21, 1957

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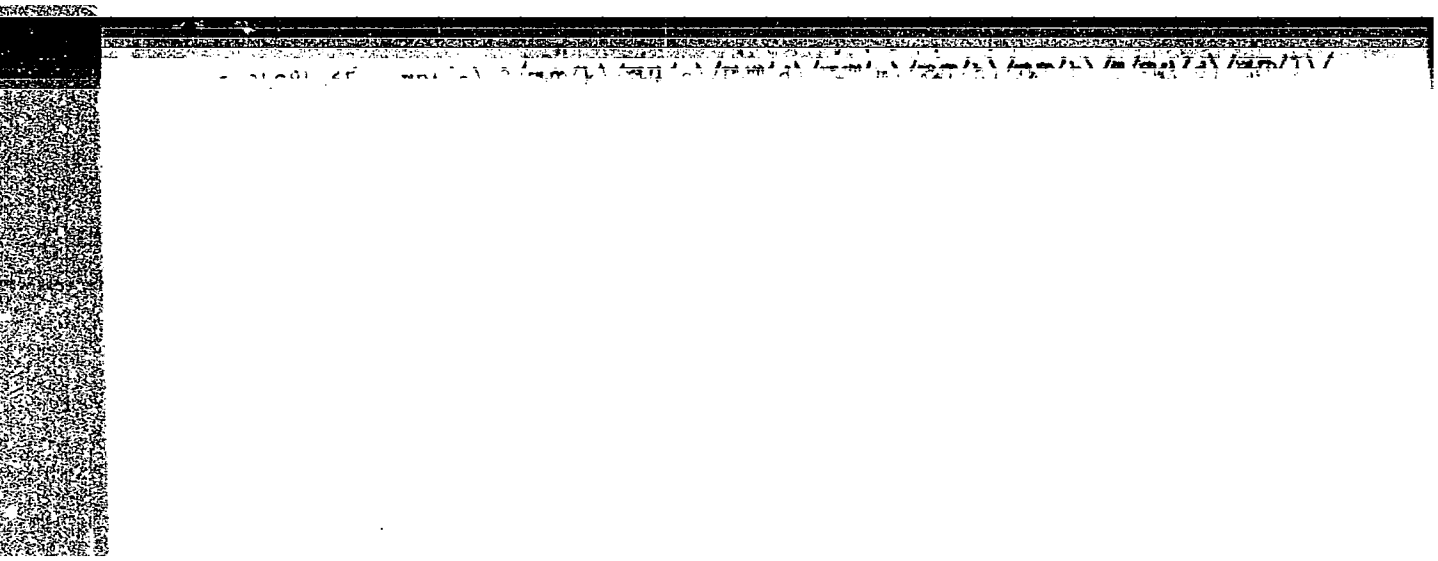

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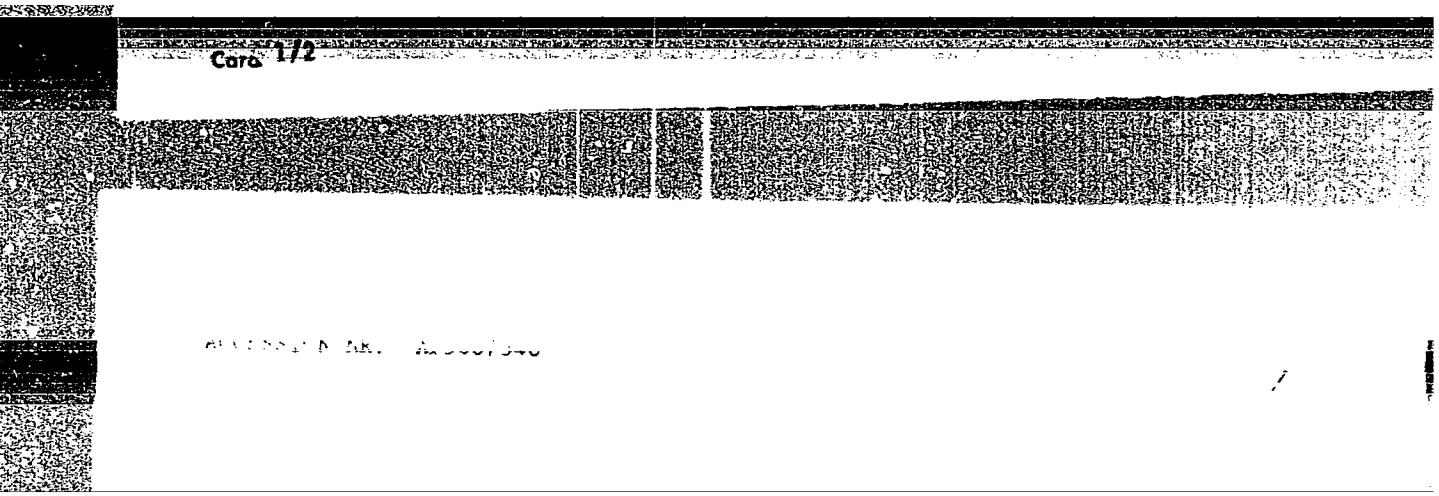

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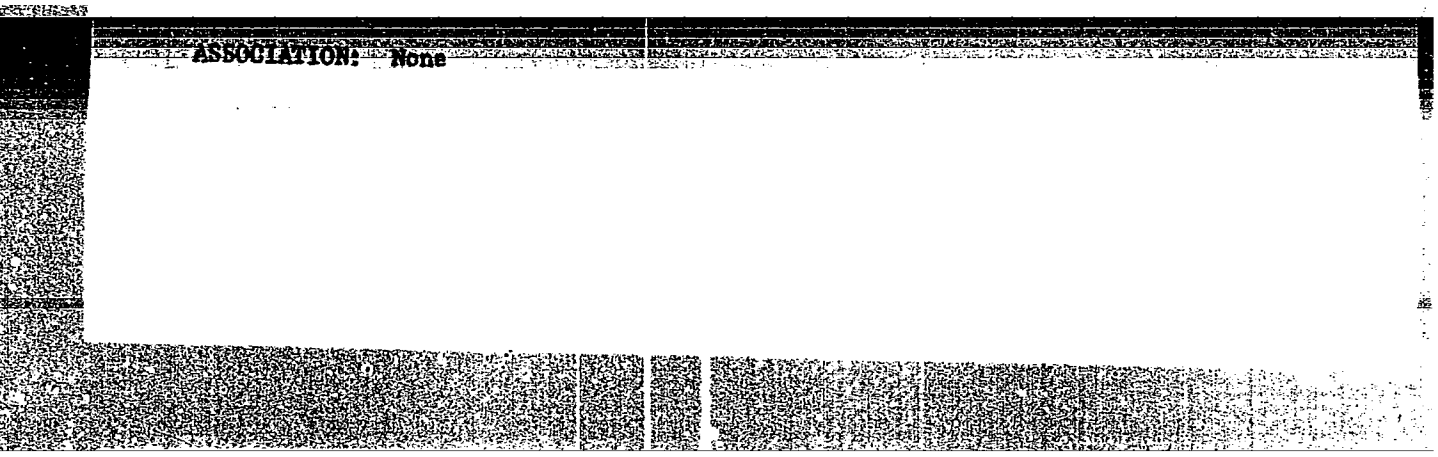

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X-Ray Crystallographic Determination of Dispersion of Structural Components and of Magnitude of Microstresses in Cu-Ni-Fe Alloys with High Coercive Forces

three alloys were studied:
1) 53% Cu, 23% Ni, 24% Fe;
2) 61% Cu, 22% Ni, 17% Fe;
3) 50% Cu, 25% Ni, 25% Fe.
The method of harmonic analysis of the "form" of X-ray diffraction lines was used to find the degree of dispersion of the structural components and the magnitude of microstresses in these three alloys. If the photometric curves, representing the "form" of the diffraction lines, are expanded into Fourier series it is possible to find the reason for the diffuseness of these lines. The X-ray patterns were obtained by means of a camera with a 114 mm dia drum. A sharp-focus X-ray tube with an iron anticathode was used. A nickel standard was employed to calibrate the "instrumental" line width. The diffraction patterns were obtained immediately after thermal treatment. This thermal treatment was carried out in an electric furnace in an atmosphere of hydrogen. Samples were hardened by quenching from 1075°C (after 2 hours at that temperature). Some of the samples were subsequently tempered and dipped in oil. Magnetic measurements were made by the

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X-Ray Crystallographic Determination of Dispersion of Structural Components and of Magnitude of Microstresses in Cu-Ni-Fe Alloys with High Coercive Forces

"neck" method. The maximum magnetizing field used in measurements was 4200 oersted. Saturation occurred in every sample at fields of this order. X-ray diffraction patterns of samples of the alloy Nr 1 are shown in Fig.1 and some of the curves used in the analysis of these patterns are given in Figs.2-4. Table 1 gives the values of the coercive force and the lattice constants a_o, as well as the ratios of the intensities of the (222) lines of the phases γ_1 and γ_2 in the alloy Nr 1. Fig.5 gives the dependence of H_c on the mean dimensions of "coherent regions" in Cu-Ni-Fe alloys Nrs 1 and 2. The following conclusions are drawn by the authors from their results.

A) Change in the coercive force of the Cu-Ni-Fe alloys studied is accompanied by a change in the width of the X-ray diffraction lines.

B) At the initial stage of tempering, the diffraction lines

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X-Ray Crystallographic Determination of Dispersion of Structural Components and of Magnitude of Microstresses in Cu-Ni-Fe Alloys with High Coercive Forces

become diffuse, which signifies the appearance of highly disperse "coherent regions" (100-150 Å in size), which form the nuclei of the γ_1 and γ_2 phases.

C) Further tempering produces a separation of γ_1 and γ_2 phases out of the solid solution and this is accompanied by splitting of each diffraction line into two. Microstresses increase at this stage.

D) The maximum values of H_c are reached when the separation between the γ_1 and γ_2 phases is greatest; γ_1 and γ_2 crystallites are then about 200 Å in size.

E) Further tempering produces then coagulation of the γ_1 and γ_2 crystallites and H_c falls. Microstresses also become smaller.

F) It is suggested that reversal of magnetization in Cu-Ni-Fe alloys with high coercive forces occurs by rotation, due to high dispersion and magnetic isolation of the structure

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X-Ray Crystallographic Determination of Dispersion of Structural Components and of Magnitude of Microstresses in Cu-Ni-Fe Alloys with High Coercive Forces

of components. There are 5 figures, 2 tables and 12 references; 7 of the references are Soviet, 2 English, 2 German and 1 international.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet imeni A. M. Gor'kogo (Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: May 17, 1957.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

SOV/126-7-1-8/28

AUTHORS: Barutkin, I.N. and Pines, B. Ya.

TITLE: X-Ray Diffraction Study of the Structure of the Fe-Ni-Al-Cu Alloy With High Coercive Force (Rentgenograficheskoye issledovaniye struktury vysokokoertsitivnogo splava Fe-Ni-Al-Cu)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 1, pp 57-63 (USSR)

ABSTRACT: Fe-Ni-Al alloys (with Co and Cu admixtures) are very sensitive to heat treatment. Quenched samples of these alloys undergo internal changes on tempering. The changes consist of the formation of two body-centred cubic phases β and β_2; the β-phase is close to pure iron in its composition and the β_2-phase is an ordered solid solution of Fe in Ni-Al. The present paper reports a new X-ray diffraction study of changes in the structure of Fe-Ni-Al-Cu alloys (55.6, 25, 14.5 and 4% by weight, respectively) produced by various heat treatments. These changes of structure were then related to changes of the coercive force. The samples

Card 1/3 were in the form of cylinders of 8.2 mm diameter and 15 mm

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X-Ray Diffraction Study of the Structure of the Fe-Ni-Al-Cu Alloy With High Coercive Force

length. They were homogenised by heating at 1050°C for two hours. Homogenisation and subsequent heat treatment were carried out in an atmosphere of hydrogen. Two types of heat treatment were applied: (a) quenching from 1050°C in water with subsequent tempering at 650°C, and (b) cooling from 1050°C to room temperature at rates from 3000°C/min to 2°C/min with subsequent two-hour tempering at 650°C. The X-ray diffraction paterns were obtained by means of a sharp-focus tube in a camera of 114 mm diameter. Cobalt radiation and an aluminium filter were employed. The aluminium lines due to that filter were used as standards in calibration of the diffraction paterns. The K-line (310) of the alloy was recorded (Fig.1). Magnetic measurements were made by a ballistic "neck" method. Normal magnetisation curves and hysteresis loops were recorded; at the highest magnetising field used (4200 oersted) technical saturation was produced. The X-ray diffraction studies in conjunction with magnetic measurements showed that high values of the coercive force H_c occurred when the ferromagnetic β-phase

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X-Ray Diffraction Study of the Structure of the Fe-Ni-Al-Cu Alloy With High Coercive Force

was distributed in highly dispersed state in the weakly magnetic β_2-phase. The optimum size of the β-phase particles for achievement of high H_c was found to be $\sim$250 Å. The degree of dispersion found from the X-ray data agreed with the results of electron-microscope studies of the Fe-Ni-Al-Co alloys (Refs.3-5). There are 2 figures, 1 table and 11 references, of which 8 are Soviet, 2 German and 1 English.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: May 17, 1957

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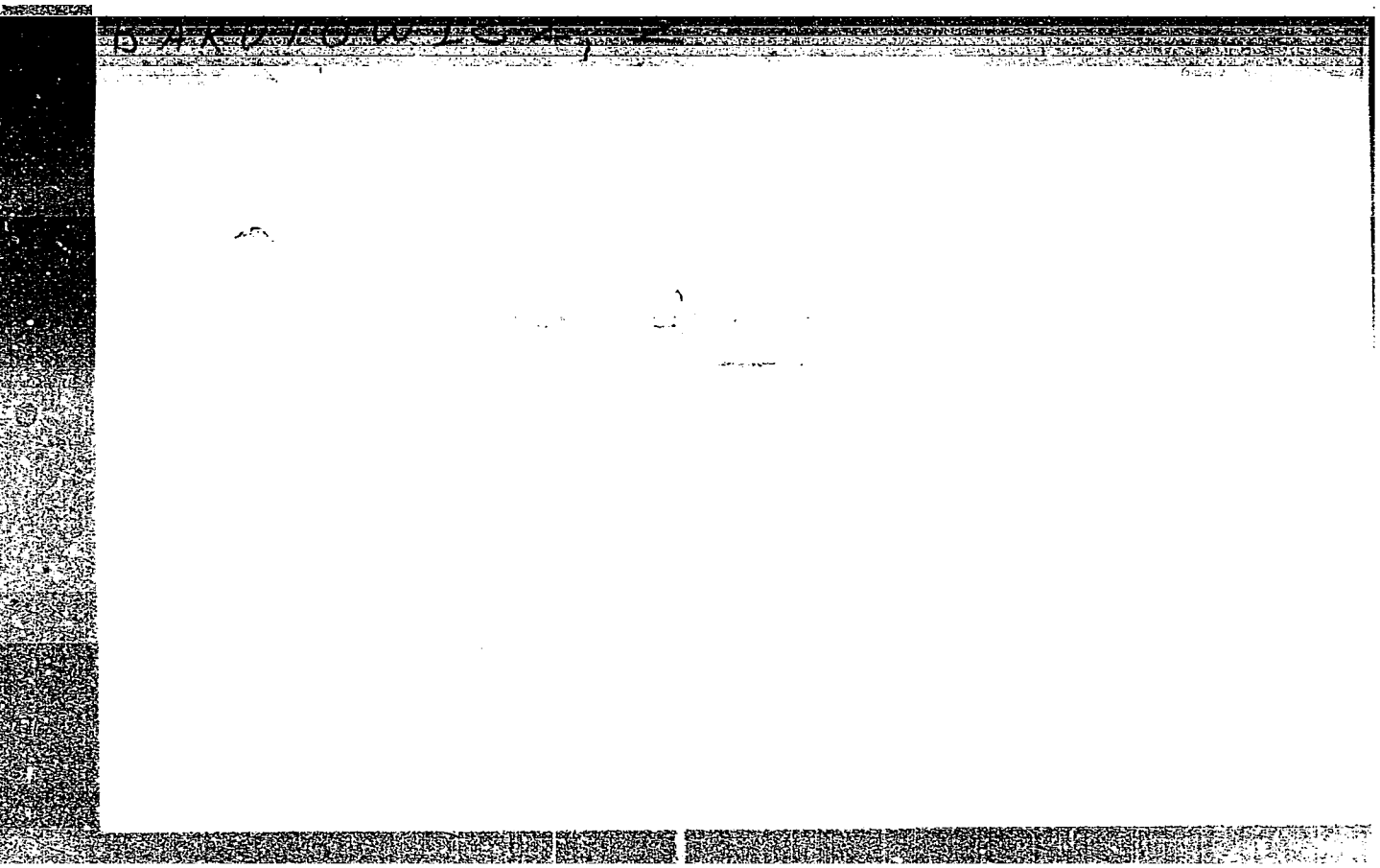

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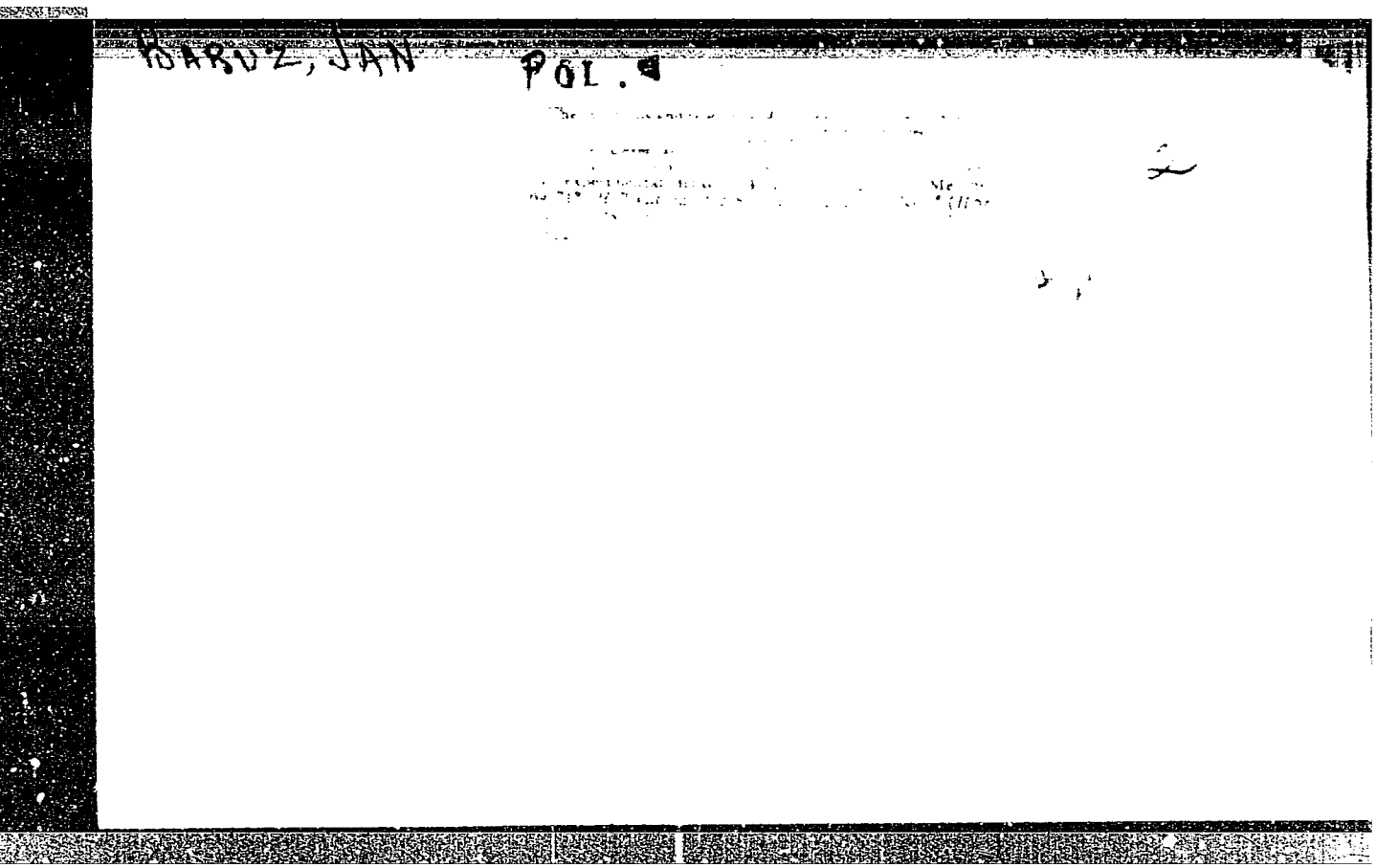

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BARUZDIN, A. P.

BARUZDIN, A. P.: "Transitory processes in a two-roter electric motor for a DC propellor system." Min Higher EducationUSSR. Leningrad Electrical Engineering Inst imeni V. I. Ul'yanov(Lenin). Chair of "Electrical Machinery." Leningrad, 1956. (DISSERTAION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCE).

So.: Knizhnaya Letopis' No 15, 1956, Moscow.

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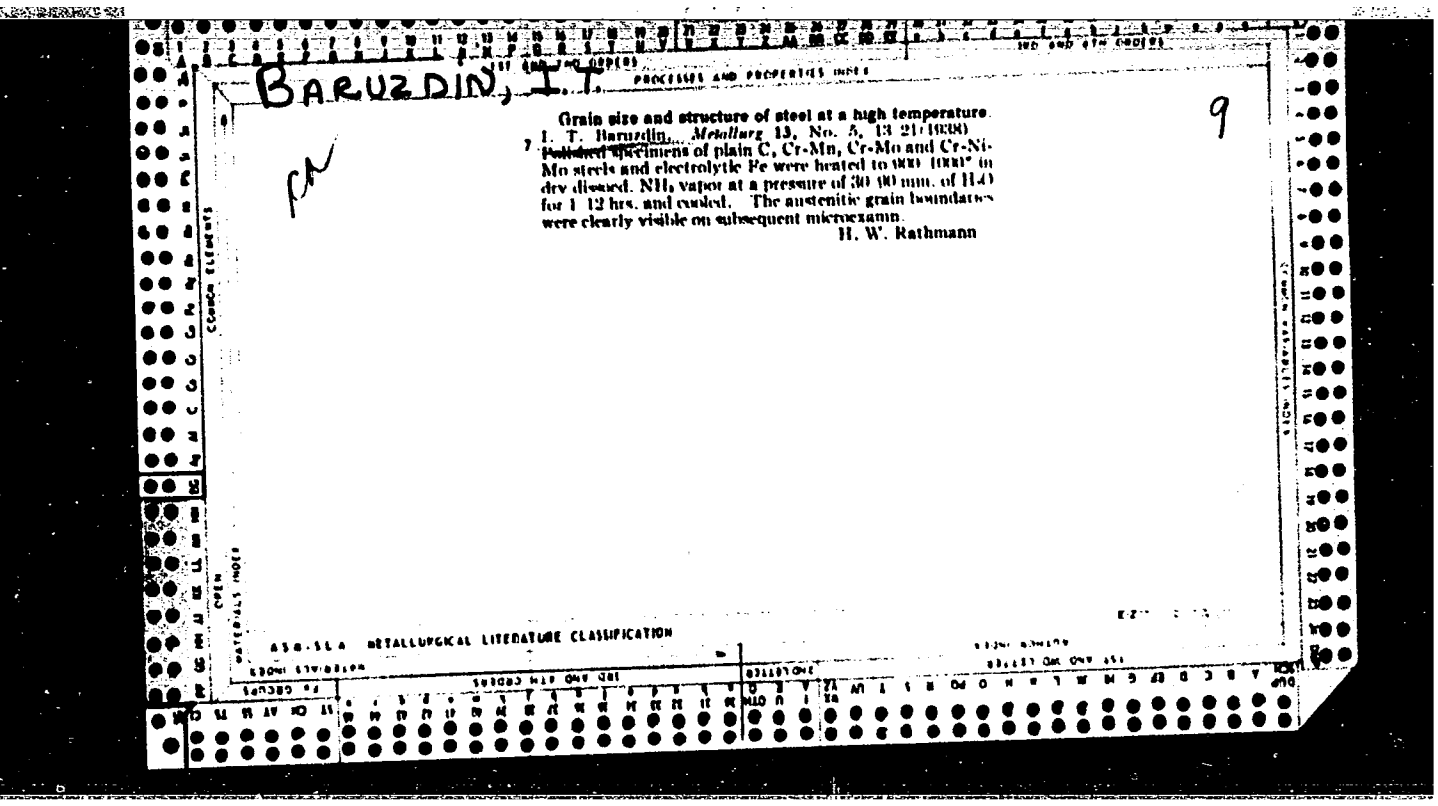

BARUZDIN, I. T.

9

Grain size and structure of steel at a high temperature.
I. T. Baruzdin. *Metallurg* 13, No. 5, 13-21 (1938).
Polished specimens of plain C, Cr-Mn, Cr-Mo and Cr-Ni-Mo steels and electrolytic Fe were heated to 800-1000° in dry dissocd. NH_3 vapor at a pressure of 30-40 mm. of Hg for 1-12 hrs. and cooled. The austenitic grain boundaries were clearly visible on subsequent microexamn.
H. W. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

AUTHORS: Andreyev, I. A., Baruzdin, I. T., Gluskin, L. Ya. SOV/32-24-7-33/65

TITLE: On the Estimation of the Plasticity of Alloyed Low-Carbon Steels According to the Method of Hot Settling (Ob otsenke plastichnosti nizkouglerodistoy legirovannoy stali po metodu goryachey osadki)

PERIODICAL: Zavodskaya Laboratorya, 1958, Vol. 24, Nr 7, pp. 855 - 858 (USSR)

ABSTRACT: Methods exist for the estimation of the plasticity of steels within the temperature range of hot deformation. In the present paper the chromium-nickel steel of the type 12kh2N3MA is investigated within the range of forging temperatures, with the cylindrical samples being somewhat modified; thus three experimental series are obtained. The samples were heated to 900 - 1250° and there they were maintained for 40-60 minutes; the crusher was settled with 700 tons with the settling degree amounting to 75%. It was observed that the sample type with four longitudinal grooves on the cylindrical face offered the best possibility of determination. This suggestion had been

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On the Estimation of the Plasticity of Alloyed Low-Carbon Steels According to the Method of Hot Settling SOV/32-24-7-33/65

made by S.I.Sakhin, I. T.Baruzdin and T.G.Barinov. In order to be able to classify the influence exerted by other elements 0,09% of titanium was added to the steel (among others). The number of the cracks formed at the sample served as index of the plasticity; the results were represented graphically. It may be seen that the cracks are formed at 1075 - 1100°, with the addition of titanium not decreasing the range of cracks. Based on the results obtained the authors assume that the formation of cracks of the steel type mentioned above takes place at 1050 - 1080°, whereas it was observed that an increase of the carbon content decreases the brittleness, and a decrease of the nickel content on certain conditions may cause an improvement of the deformability. The investigations carried out at casting temperatures between 1540 and 1670° were made by S.I.Sakhin and T.G.Barinov. They showed that by increasing the casting temperature the range of brittleness is extended by 50° on the plasticity curve towards higher temperatures; the latter agrees with the observations made in production. There are 4 figures, 2 tables, and 8 references, 7 of which are Soviet.

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KORETSKIY, Yan [Korecky, Jan], doktor inzh.; PRSHENOSIL, Bogumil [Prenosil, Bohumil]; VOZHENILEK, Bogumil [Vozenilek, Bohumil], retsenzent; KRASNYY, Oldrizhikh [Krasny, Oldrich], retsenzent; SAVENKOV, Yu.N.[translator]; BARUZDIN, I.T., kand. tekhn. nauk, red.; NIKITINA, R.D., red.; KRYAKOVA, D.M., tekhn. red.

[Case hardening of steel]TSementatsiia stali. Pod red. I.T. Baruzdina. Leningrad, Sudpromgiz, 1962. 232 p. (MIRA 15:9)
(Case hardening)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZDIN, Sergey.

The first winter. IUn.nat.no.1:38-39 Ap '56. (MLRA 9:9)
(Elephants)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203810006-1

BARUZDIN, V.I.; GONCHAROVA, M.K. [deceased]; MALYSHEV, M.V., inzhener, redaktor; KUZNETSOVA, A.G., izdatel'skiy redaktor; SHCHERBAKOV, P.V., tekhnicheskiy redaktor

[Principles of the theory of probabilities] Osnovy teorii veroiatnostei. Moskva, Gos.izd-vo obor.promyshl., 1957. 53 p. (MIRA 10:7)
(Probabilities)

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BARUZDIN, V.I.; YEFIMOCHKINA, Ye.P.; KOZHEVNIKOV, N.I.; SHAFALOVICH, A.F., red.; CHISTYAKOVA, K.P., tekhn.red.

[Collection of problems on the probability theory] Zadachnik po teorii veroiatnostei. Moskva, Mosk.aviatsionnyi in-t, 1959. 46 p. (MIRA 13:9)

(Probabilities--Problems, exercises, etc.)

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BARUZDIN, Yu.K.

Scouring machinery. Standartizatsiia 26 no.8:51 Ag '62.
(MIRA 15:8)

(Grain--Cleaning)

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